

Serial No.: 10/552,857
Response to Office Action mailed: August 12, 2009
Amendment Dated: October 8, 2009

Amendments to the specification:

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1-61. (canceled)

62. (previously presented) A nucleic acid construct comprising a first nucleic acid portion encoding a chalcone synthase (CHS) from a *Trifolium* species and a second nucleic acid portion encoding a dihydroflavonol 4-reductase (BAN) from a *Trifolium* species, said construct expressing both the CHS and the BAN when the construct is introduced into a plant cell.

63. (currently amended) The nucleic acid construct according to Claim 62 further ~~including~~ comprising a third nucleic acid or nucleic acid ~~fragment~~portion encoding leucoanthocyanidine reductase (LAR) from a *Trifolium* species.

64. (previously presented) The nucleic acid construct according to Claim 62, wherein said first and second nucleic acid or nucleic acid fragmentsportions are from *Trifolium repens*.

65. (currently amended) A nucleic acid construct comprising
a first nucleic acid portion encoding a chalcone synthase (CHS), or complementary or antisense to a sequence encoding CHS, said first nucleic acid portion comprising a nucleotide sequence selected from the group consisting of

- (a) Sequence ID Nos. 1, 3, 5 and 7,
- (b) nucleotide sequences encoding Sequence ID Nos. 2, 4, 6 and 8;
- (c) complements of the sequences recited in (a) and (b);
- (d) sequences antisense to the sequences recited in (a), and (b) and (c);

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(e) functionally active fragments and variants having at least 90% identity to the relevant part of the sequences recited in (a), (b), (c) and (d); and

(f)(e) RNA sequences corresponding to the sequences recited in (a), (b), (c), (d) and (e); and

a second nucleic acid portion encoding a dihydroflavonol 4-reductase (BAN), or complementary or antisense to a sequence encoding BAN, said second nucleic acid portion comprising a nucleotide sequence selected from the group consisting of

(a) Sequence ID No. 9;

(b) nucleotide sequences encoding Sequence ID No. 10;

(c) complements of the sequences recited in (a) and (b);

(d) sequences antisense to the sequences recited in (a), (b) and (c); and

(e) functionally active fragments and variants having at least 90% identity to the relevant part of the sequences recited in (a), (b), (c) and (d); and

(f) RNA sequences corresponding to the sequences recited in (a), (b), (c), (d) and (e);

said construct modifying the levels of both the CHS and the BAN when the construct is introduced into a plant cell.

66. (previously presented) The nucleic acid construct according to Claim 65, further comprising a third nucleic acid portion encoding a leucoanthocyanidine reductase (LAR), or complementary or antisense to a sequence encoding LAR, said third nucleic acid portion comprising a nucleotide sequence selected from the group consisting of

(a) Sequence ID Nos. 11, 13 and 15;

(b) nucleotide sequences encoding Sequence ID Nos. 12, 14 and 16;

(c) complements of the sequences recited in (a) and (b);

(d) sequences antisense to the sequences recited in (a), (b) and (c); and

(e) functionally active fragments and variants of the sequences recited in (a), (b), (c) and (d); and (f) RNA sequences corresponding to the sequences recited in (a), (b), (c), (d) and (e);

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said construct modifying the levels of each of the CHS, the BAN and the LAR when the construct is introduced into a plant cell.

67. (currently amended) The nucleic acid construct according to claim 65 wherein said functionally active fragments and variants have at least approximately 95% identity to the relevant part of the sequences recited in (a), (b), (c) and (d), respectively, and have a size of at least 6030 nucleotides.

68. (previously presented) The nucleic acid construct according to claim 65 wherein
said first nucleic acid portion comprises a nucleotide sequence selected from the group consisting of (a) Sequence ID Nos. 1, 3, 5 and 7; (b) nucleotide sequences encoding Sequence ID Nos. 2, 4, 6 and 8; (c) complements of the sequences recited in (a) and (b); (d) sequences antisense to the sequences recited in (a), (b) and (c); and (e) RNA sequences corresponding to the sequences recited in (a), (b), (c), (d) and (e); and

 said second nucleic acid portion comprises a nucleotide sequence selected from the group consisting of (a) Sequence ID No. 9; (b) nucleotide sequences encoding Sequence ID No. 10; (c) complements of the sequences recited in (a) and (b); (d) sequences antisense to the sequences recited in (a), (b) and (c); and (e) RNA sequences corresponding to the sequences recited in (a), (b), (c), (d) and (e).

69. (previously presented) A plant cell, plant, plant seed or other plant part, having incorporated therein the nucleic acid a construct according to Claims 62.

70. (currently amended) A plant, plant seed or other plant part derived from ~~a~~ the plant cell or plant according to Claim 69 and having incorporated therein ~~a~~ the nucleic acid construct comprising a first nucleic acid portion encoding a chalcone synthase (CHS) from a *Trifolium* species and a second nucleic acid portion encoding a dihydroflavonol 4-reductase (BAN) from a

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Trifolium species, said construct expressing both the CHS and the BAN when the construct is introduced into a plant cell according to Claim 62.

71. (currently amended) A method of modifying one or more processes selected from the group consisting of condensed tannin biosynthesis; protein binding; metal chelation; anti oxidation; UV-light absorption; and plant defense to a biotic stress in a plant, said method including comprising introducing into said plant an effective amount of a nucleic acid construct according to claim 62.

72. (previously presented) The method according to Claim 71, wherein the method comprises modifying plant defense to biotic stress and the biotic stress is selected from the group consisting of viruses, micro-organisms, insects and fungal pathogens.

73. (previously presented) The method according to claim 71 wherein said nucleic acid construct further comprises a third nucleic acid portion encoding leucoanthocyanidine reductase (LAR) from a *Trifolium* species.

74. (previously presented) The method according to Claim 71 wherein said first and second nucleic acid portions are from *Trifolium repens*.

75. (currently amended) A method of modifying forage quality of a plant by disrupting protein foam and/or conferring protection from rumen pasture bloat, said method including comprising introducing into said plant an effective amount of a nucleic acid construct according to Claim 62.

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76. (previously presented) The method according to claim 75 wherein said nucleic acid construct further comprises a third nucleic acid portion encoding leucoanthocyanidine reductase (LAR) from a *Trifolium* species.